Section 2 - National Compliance Report

PART I - INTRODUCTION

PURPOSE

The purpose of the remaining sections of this report is to provide additional information to the general public, Federal and State regulators, and Tribal governments on the compliance status of public water systems (PWSs), including those located on Indian reservations and serving Indian Tribes, for calendar year 1996. This report summarizes and evaluates the compliance information and makes recommendations concerning actions that the U.S. Environmental Protection Agency (EPA) and States need to take to improve compliance at public water systems. Section 2 of this report addresses national compliance of PWSs in the U.S. States and Territories. Section 3 focuses on compliance of PWSs on Indian reservations.

STATUTORY REQUIREMENTS

The Safe Drinking Water Act (SDWA) Amendments of 1996 (PL 104-182) made fundamental changes in the nature of the drinking water program at the Federal, State, Tribal and local levels. This report has been prepared to meet one of these new requirements. Specifically, Section 1414(c)(3) of the amendments requires that:

- States with primary enforcement responsibility (primacy) prepare and submit to EPA an annual report on PWS violations. States were required to submit their first report by January 1, 1998. These reports must address violations of national primary drinking water regulations with respect to maximum contaminant levels (MCLs), treatment requirements, significant monitoring requirements, and variances and exemptions.
- States with primacy publish and distribute summaries of their reports and indicate where the full report is available for review.
- EPA summarize and evaluate the States' reports in an annual national report, of which this is the first. This report must make recommendations concerning the resources needed to improve compliance with the SDWA. The report must also address PWS compliance on Indian reservations, enforcement activities undertaken, and financial assistance provided by EPA to Indian reservations.

In addition to requiring State and national compliance reports, the amendments include two other provisions designed to give consumers more information about the quality of their drinking water. These are:

- A requirement that community water systems issue annual Consumer Confidence Reports that contain information on the source of the water supply, the levels of detected contaminants found in drinking water, information on the health effects of contaminants found in violation of national standards, and information on unregulated contaminants.
- A provision that improves the procedures for how and when public water systems must notify their customers when drinking water regulations are violated.

STAKEHOLDER INVOLVEMENT

In developing this report, EPA convened several workgroups and stakeholder groups consisting of EPA, States, environmental and public health groups, water system operators, trade associations, representatives from Indian Tribes, Tribal professional environmental organizations, and

Tribal water utility managers and water operators and coordinated with the Indian Health Service and Bureau of Indian Affairs.

PART II - NATIONAL AND STATE PUBLIC DRINKING WATER PROGRAMS

To understand the compliance information presented in this report, it is helpful to understand the Public Drinking Water Program. In order for a State, Territory, or Tribe to be given the primary enforcement responsibility to run a drinking water program (called primacy), it must adopt regulations that are at least as stringent as Federal regulations and demonstrate capacity to enforce those regulations and implement other activities to ensure compliance. Of the 56 States and Territories, all but Wyoming and the District of Columbia have primacy. EPA Regional Offices administer the program within these two jurisdictions. EPA also administers the program on all Tribal lands.

EPA REGULATIONS

The Safe Drinking Water Act requires that the EPA establish national primary drinking water regulations. These regulations set national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits, known as MCLs, set the maximum permissible level of a contaminant in water delivered to a user of a PWS. At the Federal level, EPA has set drinking water standards, or MCLs, for more than 80 contaminants. An MCL is the maximum permissible level of a contaminant in water which is delivered to any user of a public water system. There are MCLs for both contaminants that cause acute health effects after a short-term exposure and contaminants that can cause chronic health effects after long-term exposure. Additional information on the health effects of specific contaminants can be found on the EPA web site (http://www.epa.gov/safewater).

For some regulations, EPA sets a treatment technique requirement where it is infeasible to monitor and ascertain the level of a particular contaminant. The required treatment techniques are designed to prevent known or anticipated health effects. Treatment technique requirements have been established under both the Surface Water Treatment Rule and the Lead and Copper Rule. A violation of a treatment technique indicates that the system failed to treat the water as specified to minimize the presence of potentially harmful contaminants.

EPA also sets monitoring, reporting, and record keeping requirements that PWSs must follow. A monitoring or reporting violation can occur when a PWS either fails to take the required number of samples or perform a required analysis, or fails to report the results of an analysis performed in a timely manner or as required by law. Only significant monitoring and reporting violations were analyzed in this report, as required by the 1996 SDWA Amendments. A significant monitoring and reporting violation occurs when a PWS collects none of the samples or submits none of the reports required by a particular regulatory provision. It can also occur if a PWS collects less than 90% of the samples or submits less than 90% of the reports required by the Surface Water Treatment Rule. Appendix A contains additional information about the definition and application of significant monitoring and reporting violations.

PWSs are required to report all monitoring results to their primary enforcement responsibility. States and Territories with primacy analyze the monitoring results, determine compliance, and report violations to EPA on a quarterly basis. EPA maintains these violations in the national Safe Drinking Water Information System (SDWIS/FED). SDWIS/FED is an exceptions-based database, meaning that only violations or instances of non-compliance are recorded.

States that have primacy, or EPA where it administers the program, may grant a PWS a variance or exemption from national primary drinking water standards, provided that the terms adequately protect public health. As provided by the SDWA, variances are available to PWSs that cannot comply with national primary drinking water regulations (due to source water quality, or, in the case of small systems, affordability). Variances generally allow a PWS to comply with less stringent, but still protective standards based on a specific technology available to the system. An exemption

allows a PWS with compelling circumstances (including economic considerations) an extension of time before it must comply with applicable SDWA requirements. An exemption is limited to three years, although extensions of up to six additional years are available to very small PWS under certain conditions.

PUBLIC WATER SYSTEMS

Public water systems must meet the requirements described above. A PWS is defined as a system that has at least 15 service connections or serves an average of at least 25 people for at least 60 days per year. There are three types of PWSs:

- Community water systems are those that serve the same people year-round (e.g., cities, towns, villages, and mobile home parks).
- Non-transient non-community water systems are those that serve at least 25 of the same people for at least six months of the year (e.g., schools, day care centers).
- Transient non-community water systems are those that serve transient populations (e.g., rest stops, campgrounds, and parks).

In 1996, there were 170,942 public water systems (Table 1). The following presents a breakdown of these systems by type:

- Community water systems: 54,728 systems serving 249 million people.
- Non-transient non-community water systems: 20,061 systems serving 6.1 million people.
- Transient non-community water systems: 96,153 systems serving 16.2 million people.

Each of these three types of systems is regulated differently. Community water systems and non-transient systems must comply with all regulations. Transient systems do not have to comply with the regulations for contaminants that cause chronic health effects because the users of transient systems are not exposed to the contaminants long enough for adverse health effects to occur. Table 2 provides a

Ta ble 1: Public Water System Inventory in Calendar Year 1996

Public Water System Inventory Data						
Water Source	**Community Water Systems (CWSs)**		**Non-transient Non-community Water Systems (NTNCWSs)**		**Transient Non-community Water Systems (TNCWSs)**	
	Number of Systems	Population Served (Millions)	Number of Systems	Population Served (Millions)	Number of Systems	Population Served (Millions)
Surface	10,500 (19%)	160 (64%)	760 (4%)	0.8 (13%)	2,143 (2%)	0.9 (6%)
Ground	44,219 (81%)	89 (36%)	19,300 (96%)	5.3 (87%)	94,009 (98%)	15.3 (94%)
Total	54,728 (100%)	249 (100%)	20,061 (100%)	6.1 (100%)	96,153 (100%)	16.2 (100%)
Percent of Total PWSs	32%	__*	12%	__*	56%	__*

*Populations for all three categories are not totaled as some people are served by multiple categories of water systems.

Source: Safe Drinking Water Information System

summary of drinking water regulations as they apply to the three types of PWSs.

PWSs can also be classified according to the size of the population that is being served. EPA frequently analyzes compliance trends based on three PWS size categories:

- Small systems: serve 25 to 3,300 persons.
- Medium systems: serve 3,301 to 10,000 persons.
- Large systems: serve more than 10,000 persons.

The number of systems in each size classification in 1996 and the total population that they serve are shown in Figures 1 and 2.

As these figures show, the number of large systems is small, but they serve a much greater population than is served by the smaller systems.

PWSs obtain their water from:

- Surface water sources which include rivers, lakes, and reservoirs.
- Ground water sources that are supplied from wells drilled into underground aquifers.

Some PWSs obtain their water from a combination of the two types of sources or purchase their water from another PWS. In 1996, surface water served as the source for approximately 8% of the PWSs serving approximately 60% of the total population served by PWSs (Table 1). Ground water served as a source for approximately 92% of the PWSs, serving approximately 40% of the population served by PWSs.

PART III - PWS COMPLIANCE DATA AND ANALYSIS

EPA has compiled and reviewed 1996 violations data available from the Annual State Public Water Systems Reports and national PWS data from EPA's SDWIS/FED database. The national analysis uses SDWIS/FED data, rather than data from the State reports, primarily because EPA conducted analyses at the national level using information that was not required or included in the Annual State Public Water Systems Reports. Summaries of data from State reports can be found in Appendix B. In developing this report, EPA and its partners have realized that we have questions about the quality of some of the data contained in SDWIS/FED. Nonetheless, when viewed in the aggregate, this data presents an overall compliance picture of PWSs nationwide. Later in this report is a discussion of data quality concerns and recommendations to address these concerns.

DATA ANALYSIS

In 1996, the vast majority of people in the nation received water from systems that had no reported violations of MCL and treatment technique requirements or significant monitoring and reporting requirements. The report looks at the compliance status of all types of public water systems; however, much of the report focuses on community water systems because the majority of the population obtains drinking water from community water systems. Within the limitations of data quality, as discussed in this report, some of the most notable findings are:

The nation's drinking water is generally safe — 86 % of the country's *population* served by community water systems drank water from systems that reported no violations of any health-based drinking water standards.

- 94% of all *public water systems* had no reported MCL or treatment technique violations.
- 91% of *community water systems* had no reported MCL or treatment technique violations. Violations were primarily of the Total Coliform Rule and Surface Water Treatment Rule - rules which protect against microbiological contamination of drinking water.
- 94% of *non-transient non-community water systems* had no reported MCL or treatment technique violations. Most of the systems with a reported violation violated the Total Coliform Rule.
- 95% of *transient non-community water systems* had no reported MCL or treatment

Table 2: Summary of Drinking Water Regulations for PWSs

Applicability of Current Regulations			
Contaminant/Rule	**Community Water Systems**	**Non-transient non-community water systems**	**Transient non-community water systems**
Organic Contaminants	All	All	Some (Only epichlorohydrin and acrylamide)
Total Trihalomethanes (TTHM)	Some (Only systems serving more than 10,000)	None	None
Inorganic Contaminants	All	Some (All except arsenic and fluoride)	None
Nitrate and Nitrite	All	All	All
Radionuclides	All	None	None
Total Coliform Rule	All	All	All
Surface Water Treatment Rule	Some (Only PWSs using surface water or ground water sources under the direct influence of surface water)	Some (Only PWSs using surface water or ground water sources under the direct influence of surface water)	Some (Only PWSs using surface water or ground water sources under the direct influence of surface water)
Lead and Copper Rule	All	All	None

Figure 1: Size Distribution of PWSs Number of Systems

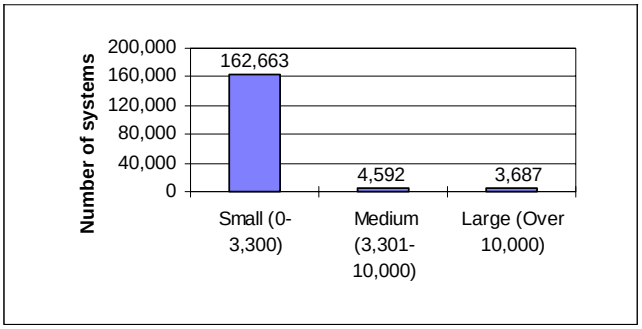
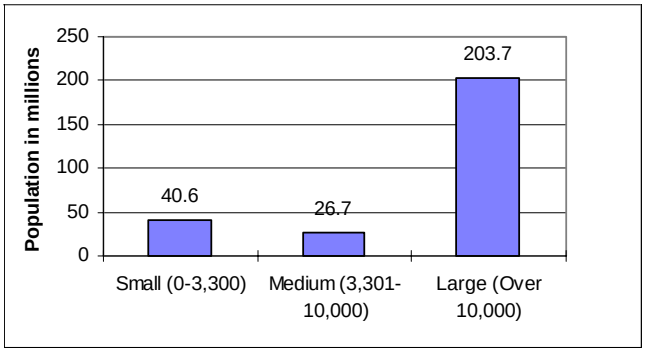


Figure 2: Size Distribution of PWSs Population Served



technique violations. As with non-transient non-community water systems, most of the systems violated the Total Coliform Rule.

Nationwide, most violations are of significant monitoring and reporting requirements.

- In 1996, there were 141,617 MCL, treatment technique, and significant monitoring and reporting violations reported by 47,918 of the 170,942 public water systems in the nation. 87% were for violations of significant monitoring and reporting requirements. 13% were for violations of MCL and treatment technique requirements.
- 76% of all *public water systems* had no reported violations of significant monitoring and reporting requirements.
- 72% of *community water systems* had no reported violations of significant monitoring and reporting requirements. The Lead and Copper Rule and Total Coliform Rule accounted for most of the systems with violations.
- 66% of *non-transient non-community water systems* had no reported violation of significant monitoring and reporting requirements. The Lead and Copper Rule and Total Coliform Rule accounted for most of the systems with violations.
- 80% of *transient non-community water systems* had no reported violation of significant monitoring and reporting requirements. The Total Coliform Rule and Nitrate Rule accounted for most of the systems with violations.

Although the *number* of large systems with a reported violation is relatively low, the *population* that is served by these systems can be large.

- 9% of the 5,151 *community water systems* with an MCL or treatment technique violation were for large systems. These systems served 30 million people. The Surface Water Treatment Rule, Total Coliform Rule, and Lead and Copper Rule are the rules most frequently violated by large water systems.
- 2% of the 15,182 *community water systems* with a significant monitoring and reporting violation were large systems. These systems served 17 million people. The rules pertaining to total coliform, surface water treatment, organic chemicals, and nitrate accounted for most of these systems with violations.

Most violations are reported in small water systems that serve fewer than 3,300 people.

- Small systems comprised 96% of the 15,182 community water systems with a significant monitoring and reporting violation. These systems served 5.0 million people.
- Small systems comprised 82% of the 5,151 community water systems with an MCL and treatment technique violation. These systems served 2.3 million people.
- Virtually all of the non-transient and transient non-community water systems are small, therefore most violations for these system types occurred in small systems.

In the remainder of this analysis, compliance data will be presented by type of water system. This is being done to prevent double counting of population when presenting the number of people served by systems reporting a violation. For example, it is possible that the same person could drink water from three different sources during a day by drinking water from their residence (served by a community water system), their school (served by a non-transient non-community water system), and at a campground or highway rest stop (served by a transient non-community water system). Including that same person three times in the population figures would be misleading.

COMMUNITY WATER SYSTEMS

There are 54,728 community water systems in the nation which serve a population of approximately 248 million people. The remaining population of the country receives residential water from individual wells or from water systems that are too small to meet the definition of a Federal

public water system (i.e. they serve fewer than 25 people).

Community water systems can be further categorized as follows:

- Small systems: 46,827 systems serving 25 million people.
- Medium systems: 4,332 systems serving 25 million people.
- Large systems: 3,569 systems serving 198 million people.

Of these 54,728 systems, 91% had no reported violations of MCL or treatment technique requirements. Approximately 66% had no reported violations of MCL and treatment technique requirements and had no significant monitoring and reporting violations.

Most of the violations experienced by community water systems were for failure to monitor the drinking water and report the results to the State. While monitoring and reporting violations do not necessarily indicate a health risk, if a system fails to monitor it may not be aware of the potential health risk posed by a contaminant which may be present, but undetected.

While the data show that *small systems* have the largest number of MCL violations, a much *larger population* is served by *large systems* with violations.

Figures 3 through 6 present a breakdown of MCL, treatment technique, and significant monitoring and reporting violations by rule. As shown in Figure 4, the rules with the greatest number of significant monitoring and reporting violations are the Lead and Copper, the Total Coliform, and Nitrate Rules. Most of the systems with these types of violations are small. A different picture is presented if population affected is considered instead of number of systems.

Figure 4 shows that large systems which violate significant monitoring and reporting requirements serve more people than small and medium systems which violate these requirements. The only exception to this is the Lead and Copper Rule, where both small and large systems with violations serve approximately the same population. Figure 4 also shows that a higher percentage of the population was served by system s with violations of significant monitoring and reporting requirements for total coliform, lead and copper, and nitrate/nitrite than for other rules.

Turning to MCL and treatment technique requirements, Figure 5 shows that community water systems violate the Total Coliform Rule and Surface Water Treatment Rule more often than other rules. Most of the systems in violation are small.

However, when considering the population served by systems in violation (Figure 6), a higher percentage of the population was served by community water systems with violations of the Surface Water Treatment Rule, the Total Coliform Rule, and the Lead and Copper Rule, respectively. Again, large systems are responsible for the greatest portion of the population served by systems in violation.

The reason for the systems in violation of the Surface Water Treatment Rule is that filtration treatment was required for a number of large systems. Although the law required this treatment to be in place by 1993, for a variety of reasons including planning, design and construction of the complex infrastructure needed to install filtration, this has taken longer than anticipated.

In 1996, the population served by small and medium systems in violation of the Total Coliform Rule MCL was about 3 million people. A much larger population (approximately 9 million) served by large systems was in violation of the Total Coliform Rule owing primarily to violations in 3 major systems serving populations more than 500,000.

The population served by systems in violation of treatment technique requirements of the Lead and Copper Rule were served primarily by large water systems. This is because all large systems are required to install corrosion control, whereas only those small and medium systems exceeding an action level must install corrosion control. Additionally, large systems are given less time to comply with the rule than small and medium systems.

Figure 3: Number of Community Water Systems with Monitioring and Reporting Violations by System Size

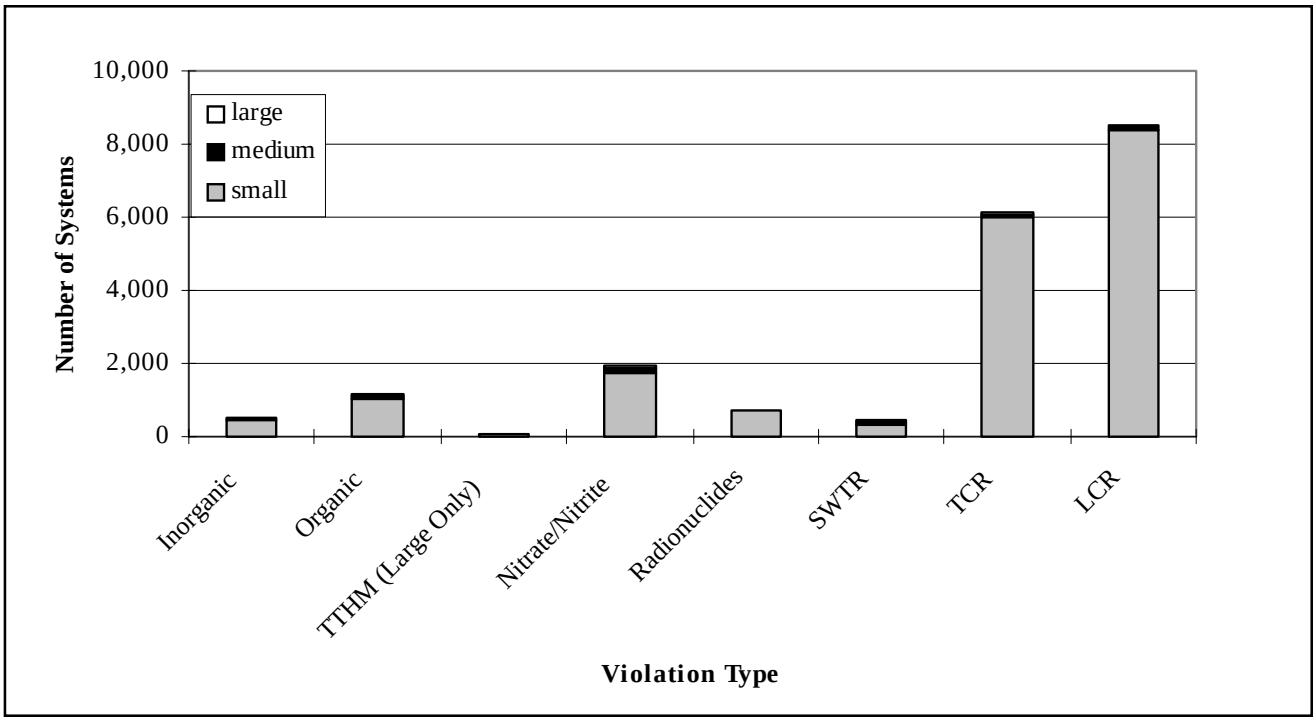


Figure 4: Population Served by Community Water Systems with Monitioring and Reporting Violations by System Size

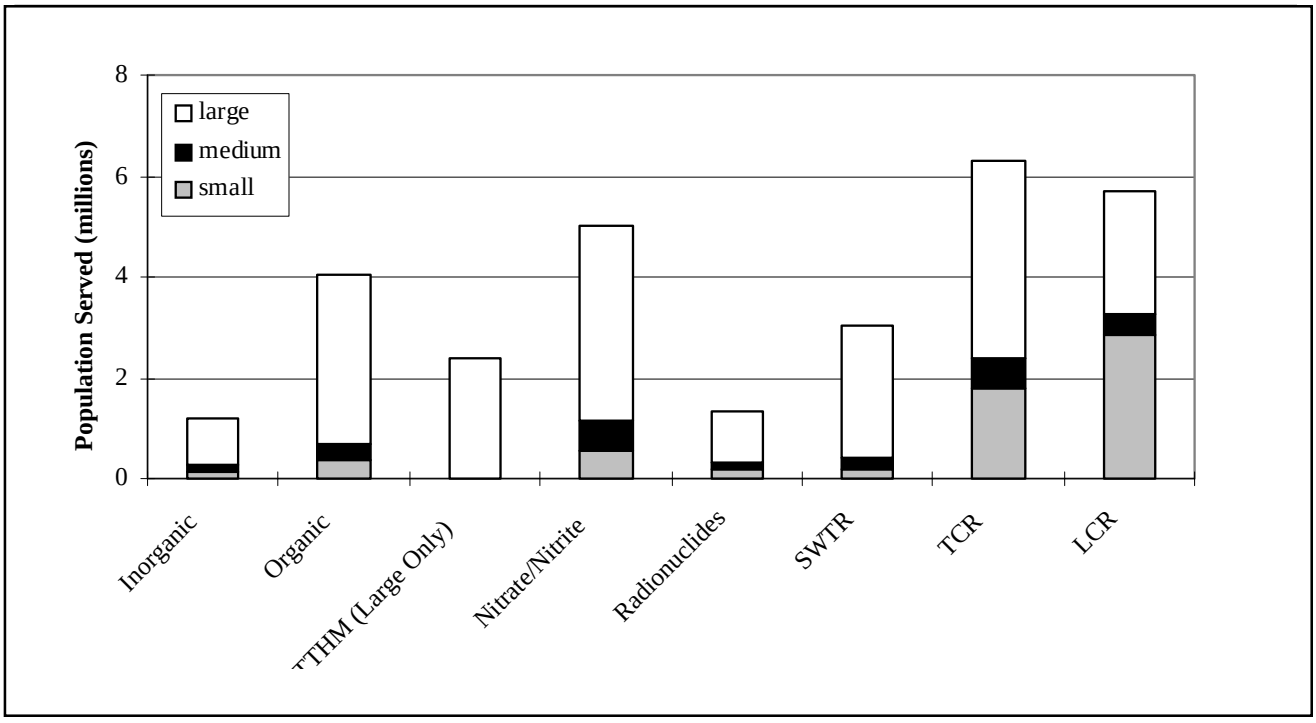


Figure 5: Number of Community Water Systems with Maximum Contaminant Level and Treatment Technique Violations

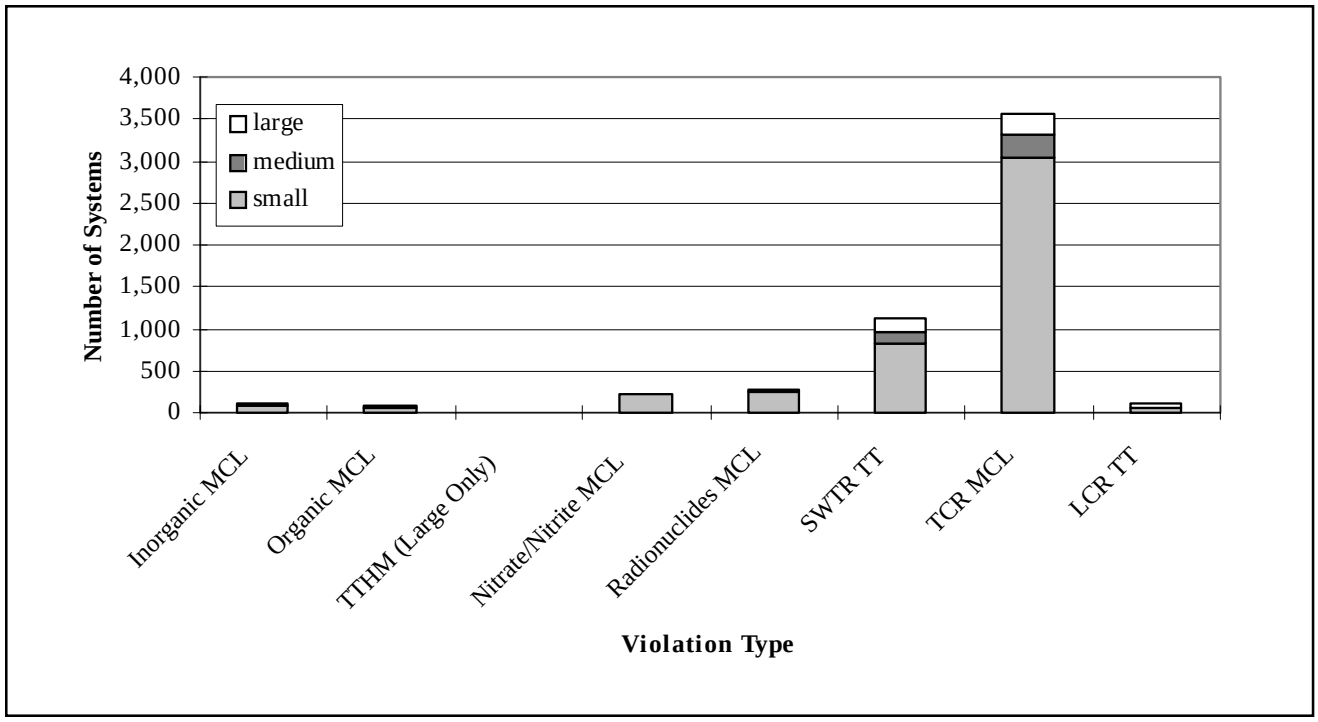
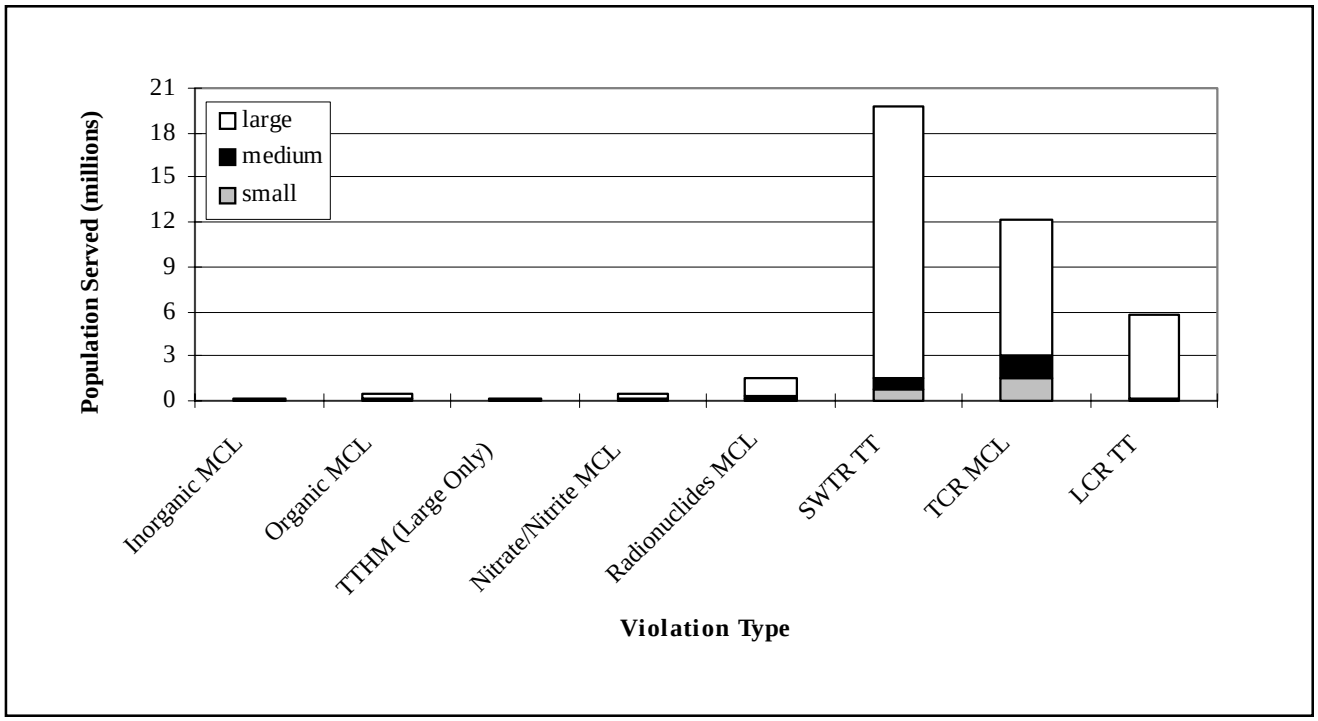


Figure 6: Population Served by Community Water Systems with Maximum Contaminent Level and Treatment Technique Violations by System Size



NON-TRANSIENT NON-COMMUNITY WATER SYSTEMS

The majority (94%) reported no violations of health-based standards. Approximately 62% of non-transient non-community water systems reported no MCL or treatment technique violations and no significant monitoring and reporting violations in 1996. Most of the violations were for significant monitoring and reporting.

General findings for non-transient non-community are:

- Of the MCL and treatment technique requirements, more systems violated the Total Coliform Rule than other rules, with 5% of the systems reporting an MCL violation.
- More systems violated the significant monitoring and reporting requirements of the Lead and Copper Rule and the Total Coliform Rule, with 21% and 14% of the systems reporting violations, respectively.

TRANSIENT NON-COMMUNITY WATER SYSTEMS

Transient systems are required to comply with the Total Coliform Rule, nitrate, and the Surface Water Treatment Rules only. However, because only 2.1% of transient systems use surface water as a source, most transient systems are not subject to the Surface Water Treatment Rule.

Overall 95% of transient systems reported no violations of MCL or treatment technique requirements and 77% of the systems reported no MCL, treatment technique, or significant monitoring and reporting violations. However, 16% of the systems had significant monitoring and reporting violations for the Total Coliform Rule and 8% for the Nitrate Rule. The percent of systems that violated the MCL for Total Coliform and nitrate were 4% and 0.3%, respectively.

For both non-transient non-community and transient non-community water systems, there was a relatively high proportion of systems reporting significant monitoring and reporting requirements of the Total Coliform Rule and a relatively low proportion of MCL violations of the rule. It is possible that if the compliance rate for monitoring and reporting increases, the compliance rate for the MCL could decrease.

VARIANCE AND EXEMPTIONS

There are very few PWSs currently operating under a variance or exemption. The SDWIS/FED database did not show any variance or exemption violations for 1996.

QUALITY OF DATA

The compliance numbers presented in this report were taken from the national SDWIS/FED database. States are required to submit data to SDWIS/FED quarterly. EPA assesses progress in the implementation of regulations, develops its national enforcement and compliance priorities and strategies, and provides information to the public based, in part, on analysis of the data in SDWIS/FED.

Most States, on the other hand, develop a database system that tracks more information than that contained in SDWIS/FED. State data systems often track monitoring results, compliance assistance activities, and enforcement actions. Most States used their own data system in developing their State compliance reports.

Because the SDWIS/FED database relies on data provided by the States, one may expect that these numbers should be comparable to those in the States' own data systems. Unfortunately, this is not the case with many States. As with any large, complex database network, especially one like SDWIS/FED that is under development, there are numerous difficulties in uploading data and correcting identified problems.

Comparison of State and SDWIS/FED data revealed both over and under-reporting by States into SDWIS/FED across all rules, with State data showing 19% more violations than SDWIS/FED on a national basis. State chemical MCL and monitoring and reporting violations were virtually identical to information in SDWIS/FED. The rule with the greatest discrepancy rate was the Lead and Copper Rule. SDWIS/FED contained almost three times as many Lead and Copper monitoring and reporting violations as the State reports. Most of this discrepancy, however, can be attributed to six

States. SDWIS/FED data for Lead and Copper treatment technique violations is less than half of what States reported for these violations.

EPA periodically conducts data verifications (independent, on-site audits of State records) of State programs to ensure that the State is determining compliance in accordance with Federal regulations and to detect differences between data in the State database and SDWIS/FED. Data verifications[1] show larger discrepancies by States in reporting on non-community water systems than for other types, particularly in the area of significant monitoring violations.

There are many reasons for these data discrepancies, including:

- SDWIS/FED is a complex database. Data entry procedures in SDWIS/FED are cumbersome and data retrieval is not user friendly.
- States use different data systems and designs.
- Data management and analysis of SDWIS/FED data is generally a lower priority for some States and Regional Offices. This lack of emphasis frequently leads to insufficient training, poor coordination among program and data managers, and situations where the responsibility for management of data systems does not lie with the people who use and need the data.

EPA is working with the States to improve the reporting system and reduce data discrepancies, to the maximum extent possible. Some of the activities underway are:

- EPA, in cooperation with the States, is developing a State data system known as SDWIS/STATE. It is intended to improve data quality and data transfers between States and EPA. Nine States and two EPA regions currently have SDWIS/STATE installed.
- EPA is:
  - Improving data entry by updating and streamlining documentation and training materials.
  - Preparing Quality Assurance manuals for use by States and Regions.
  - Investigating mechanisms for making data retrieval more user friendly. EPA is also using the database to track progress toward meeting performance measures and making SDWIS/FED information publicly available through the internet site, Envirofacts. As the database is used more, and becomes easier to use, States will have a greater incentive to improve the quality of data in it.
  - Conducting data verifications in many States each year. One of the components of these verifications is to identify discrepancies between the State system and SDWIS/FED.

PART IV - EVALUATION AND SUMMARY OF STATE REPORTS

EPA has received 1996 Annual State Public Water System Reports from 51 primacy States, Commonwealths, and Territories. As the primary enforcement agency, EPA prepared reports for the District of Columbia and Wyoming, and provided data on Indian Tribes, which do not have primary enforcement responsibility for the drinking water program.

The evaluation of these annual reports is organized into three subsections:

- State enforcement and compliance assistance programs.
- Information on the State reports.
- State-by-State summaries.

[1]Data verifications were conducted for the following States from 1995 to 1997: Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Indiana, Kansas, Louisiana, Maine, Maryland, Massachusetts, Michigan, Nebraska, New Hampshire, New Mexico, North Carolina, Ohio, Pennsylvania, Rhode Island, Texas, Vermont, Virgin Islands, Virginia, West Virginia, and Wyoming.

STATE ENFORCEMENT AND COMPLIANCE ASSISTANCE PROGRAMS

States engage in a variety of activities, including formal enforcement actions, informal actions, and compliance and technical assistance to help PWSs remain in, and return to, compliance. Additionally, all States have operator certification programs that require many PWS operators to be licensed by the appropriate authorities. State efforts may include:

- Conducting on-site visits and sanitary surveys at PWSs (i.e., an on-site review of the water sources, facilities, equipment, operations, and maintenance of a PWS to evaluate the adequacy of these elements for producing and distributing safe drinking water).
- Helping systems invest in preventive measures.
- Providing financial assistance for system improvements through the Drinking Water State Revolving Fund.
- Reviewing water system plans and specifications.
- Conducting training sessions.
- Holding public information meetings.
- Loaning specialized monitoring equipment.
- Publishing informational bulletins and newsletters on training events, etc.

Unless there is an immediate health risk, formal enforcement actions may be initiated several months after the violation is detected and reported. The reason for this delay is that, when appropriate, States commonly undertake a variety of informal actions and compliance assistance measures to try to get PWSs back into compliance as quickly as possible. Informal actions may include the following activities:

- Compliance reminder letters or notices of violations.
- Field visits.
- Telephone calls.

Formal enforcement actions may include the following activities:

- Bilateral compliance agreements.
- Citations.
- Administrative orders.
- Criminal complaints with penalties.
- Civil referrals to State Attorneys General or to the Department of Justice.
- Emergency orders.
- Criminal cases.
- Fines or administrative penalties.
- Other sanctions such as denying permission for system expansion.

Information on State enforcement activities for Fiscal Year (FY) 1996 can be found in EPA's *FY 1996 State by State Enforcement Data Summaries* (August 1997) available on the internet (http://es.epa.gov/index.html).

In conclusion, States undertake a variety of formal and informal activities to return violating systems to compliance and to ensure that the public has safe drinking water. While EPA did not analyze compliance assistance and enforcement data in this report, it may do so in future reports. EPA encourages States to include this information in future reports to provide a more complete picture of PWS compliance.

INFORMATION ON STATE REPORTS

EPA reviewed each State report to determine whether it met the requirements of the 1996 Amendments to the SDWA. The contents of the State reports are summarized in Table 3. The table indicates whether a report was submitted to EPA, whether all required elements of the report were included, and whether the State included a list of PWSs with MCL violations or treatment technique violations. The chart also includes a column indicating if information was provided on the public availability and distribution of State reports. Publication and distribution of summaries of the report and indication of where the full report is available for public review is a statutory requirement of the 1996 SDWA Amendments. This summary chart also indicates whether any additional information was included in the report that would be of interest to the public.

Table 3: Summary of Elements Reported by States

State	Submitted Report	Reported On Violations Categories			Reported on V/E*	Report Identified Each System with MCL and TT Violations	Provided Information to Public on Availability	Report Provided Additional Information
		MCL	M/R	TT				
Alabama	✖	✖	✖	✖	✖	✖	✖	✖
Alaska	✖	✖	✖	✖		✖	✖	✖
American Samoa								
Arizona	✖	✖	✖	✖				
Arkansas	✖	✖	✖	✖	✖	✖	✖	✖
California	✖	✖	✖	✖	✖	✖	✖	✖
Colorado	✖	✖	✖	✖	✖	✖	✖	✖
Connecticut	✖	✖	✖	✖	✖	✖	✖	✖
DC	✖	✖	✖	✖	✖	✖	✖	✖
Delaware	✖	✖	✖	✖		✖	✖	✖
Florida	✖	✖	✖	✖	✖		✖	✖
Georgia	✖	✖	✖	✖	✖	✖	✖	✖
Guam								
Hawaii	✖	✖	✖	✖	✖	✖	✖	✖
Idaho	✖	✖	✖	✖			✖	✖
Illinois	✖	✖	✖	✖	✖	✖	✖	✖
Indiana	✖	✖	✖	✖	✖	✖	✖	✖
Iowa	✖	✖	✖	✖	✖	✖	✖	✖
Kansas	✖	✖	✖	✖		✖	✖	✖
Kentucky	✖	✖	✖	✖	✖	✖	✖	✖
Louisiana	✖	✖	✖	✖				✖
Maine	✖	✖	✖	✖	✖	✖	✖	✖
Maryland	✖	✖	✖	✖	✖	✖	✖	✖
Massachusetts	✖	✖	✖	✖	✖	✖	✖	
Michigan	✖	✖	✖	✖	✖	✖	✖	✖
Minnesota	✖	✖	✖	✖	✖	✖	✖	
Mississippi	✖	✖	✖	✖	✖		✖	✖
Missouri	✖	✖	✖	✖	✖	✖	✖	✖
Montana	✖	✖	✖	✖	✖		✖	✖
Nebraska	✖	✖	✖	✖		✖	✖	✖
Nevada	✖	✖	✖	✖	✖	✖	✖	✖

Table 3 (Continued): Summary of Elements Reported by States

State	Submitted Report	Reported On Violations Categories			Reported on V/E*	Report Identified Each System with MCL/TT Violations	Provided Information to Public on Availability	Report Provided Additional Information
		MCL	M/R	TT				
New Hampshire	✖	✖	✖	✖			✖	✖
New Jersey	✖	✖	✖	✖	✖	✖	✖	✖
New Mexico	✖	✖	✖	✖	✖	✖		✖
New York	✖	✖	✖	✖	✖	✖	✖	✖
North Carolina	✖	✖	✖	✖		✖	✖	✖
North Dakota	✖	✖	✖	✖	✖	✖	✖	✖
Northern Mariana Islands								
Ohio	✖	✖	✖	✖	✖	✖	✖	✖
Oklahoma	✖	✖	✖	✖	✖	✖	✖	✖
Oregon	✖	✖	✖	✖	✖	✖	✖	✖
Pennsylvania	✖	✖	✖	✖	✖	✖	✖	✖
Puerto Rico	✖	✖	✖	✖	✖	✖	✖	✖
Rhode Island	✖	✖	✖	✖	✖		✖	✖
South Carolina	✖	✖	✖	✖	✖	✖	✖	✖
South Dakota	✖	✖	✖	✖	✖		✖	✖
Tennessee	✖	✖	✖	✖	✖	✖	✖	✖
Texas	✖	✖	✖	✖	✖	✖		✖
Utah	✖						✖	
Vermont	✖	✖	✖	✖	✖	✖	✖	✖
Virgin Islands	✖	✖	✖	✖	✖	✖	✖	✖
Virginia	✖	✖	✖	✖		✖	✖	✖
Washington	✖	✖	✖	✖	✖	✖	✖	✖
West Virginia	✖	✖	✖	✖			✖	
Wisconsin	✖	✖	✖	✖	✖		✖	✖
Wyoming	✖	✖	✖	✖	✖	✖	✖	

MCL - Maximum Contaminant Level, M/R - Significant Monitoring and Reporting, TT - Treatment Technique, V/E - Variance and Exemption.

*This designation indicates that the State addressed the use of variances and exemptions in the State Report. It does not indicate that any violations were necessarily reported or that variances or exemptions were issued.

STATE BY STATE SUMMARIES

EPA has developed a State-by-State summary of information reported in each State report which is located in Appendix B. A standardized format was used that includes an overall summary of the violations data specified in Section 1414 of the 1996 SDWA Amendments (i.e., violations with respect to MCLs, treatment technique violations, significant monitoring and reporting violations, and variances and exemptions). Information on how and where to obtain a copy of each State report has been included on the respective summary chart.

EPA has not interpreted the data in Appendix B and does not pass judgement on whether the States have fully reported all violations. Readers should interpret the violation data provided in the State summaries in the context of each specific State and its individual drinking water program. Although PWSs are required to report all violations to the State, States vary in the areas emphasized by their program. Thus, a large number of violations under a certain rule (e.g., the Lead and Copper Rule), may only indicate that a State devoted more attention and resources to that rule than other rules and, as such, the data reported are more complete.

A list of all PWSs having either MCL or treatment technique violations in 1996 has also been developed for many States and provided by States to EPA. Copies of these lists will be available from EPA's Safe Drinking Water Hotline at (800) 426-4791.

PART V - CONCLUSIONS AND RECOMMENDATIONS

The nation's drinking water is generally safe. In 1996, the vast majority of people in the nation received water from systems that had no reported violations of MCL and treatment technique requirements or significant monitoring and reporting requirements. Significant challenges, however, remain to improve compliance with the SDWA Amendments of 1996.

Compliance data in many individual State databases differs from that reported to the Federal database. Still, when viewed in the aggregate, the data presents an overall national compliance picture of PWSs.

States and EPA should work together to address the most significant findings identified in this report:

States and EPA should work together to address violations of significant monitoring and reporting requirements.

- For *large* community water systems, actions should address all rules. Failure by these systems to monitor can mask public health problems that affect many people and, as a result, formal enforcement should be an integral part of any action taken.
- For *small* and *medium* community water systems, actions should focus primarily on the Lead and Copper Rule, Total Coliform Rule and the Nitrate Rule. This strategy should include compliance assistance and enforcement, where appropriate. The strategy should also focus on the Surface Water Treatment Rule because violations indicate an increased risk from microbiological contamination.

States and EPA should work together to address violations of MCL and treatment technique requirements.

- For *large* community water systems, actions should address all rules, with an emphasis on the Total Coliform Rule, Surface Water Treatment Rule and the Lead and Copper Rule. Formal enforcement is especially appropriate for large water systems, particularly those failing to install or upgrade filtration treatment as required by the Surface Water Treatment Rule, and for facilities with continuing or repeated violations.
- For *small* and *medium* size community water systems, actions should focus on the Total Coliform Rule and Surface Water Treatment Rule. All available tools should be considered when responding to violations, in order to address the particular capacity development needs of these systems. Technical assistance should be made available to ensure that systems can return to, and remain in, compliance. While compliance assistance is often adequate to ensure long-term compliance, when a system does not respond to assistance, formal enforcement should be used.

States and EPA should work together to address violations at non-community water systems.

- States and EPA should identify the reasons for significant monitoring and reporting violations at non-community systems and take appropriate action. In particular,

attention should focus on the Total Coliform, Lead and Copper, and Nitrate Rules for non-transient non-community water systems; and Total Coliform and Nitrate Rules for transient non-community water systems.

- Most non-transient and transient non-community water systems are small and face problems that are unique to small systems. EPA and States should take an approach that addresses the special needs of these systems, including compliance assistance and enforcement, where appropriate.

EPA and States should work cooperatively to improve the quality of compliance data.

- **Further define the issue**: EPA should work closely with States and utilities to define the data quality issue in detail. EPA will hold several stakeholder meetings across the country, and convene a special focus group to make recommendations. This group will work with ongoing groups and efforts such as the Association of State Drinking Water Administrators/EPA Data Management Steering Committee, the Office of Enforcement and Compliance Assurance (OECA) enforcement systems reengineering efforts, and the National Drinking Water Advisory Council Right-to-Know workgroup.
- **Ensure seamless data transfer to the Federal data system:** EPA will increase efforts to make it easier to use drinking water information systems, and processes to transfer data to them electronically. For the national-level SDWIS/FED, EPA will simplify both data entry and retrieval, and public access. For States and Tribes, EPA will accelerate development of the core modules of SDWIS/STATE, and increase electronic data transfer for those States that will continue to use their own data systems.
- **Improve SDWIS data quality:** EPA and States need to work together to improve the quality of data in SDWIS and in individual State systems. In this effort, EPA and States can jointly develop quality management plans for SDWIS data. We can also take steps to improve the quality of data monitoring and reporting at all levels – utility, laboratory, State, EPA Regions, and EPA Headquarters. These steps will include more frequent verification of data at all steps of the process, vigorous follow-up of findings from the verification efforts, and increased training in and accountability for system use and data quality activities.
- **Include compliance data in the effort to integrate drinking water information:** EPA is working to provide to managers and the public a comprehensive picture of drinking water quality, including both compliance and source water quality information. This effort will integrate drinking water source information from the developing National Contaminant Occurrence Data Base (which will access multiple data bases of EPA, the U.S. Geological Survey, and others on ambient water quality) as well as water quality in public water systems. As more reliable SDWIS data is generated in the future, EPA will incorporate that data into this comprehensive effort to portray drinking water quality.